

Clean Set of All Pending Claims

1. An isolated polypeptide comprising an amino acid sequence encoding the EGF-like domain of SEQ ID NO:4.

4. The polypeptide of claim 1, wherein the polypeptide binds to the ErbB4 receptor and activates tyrosine phosphorylation of the ErbB4 receptor.

39. An isolated polypeptide comprising an EGF-like domain, wherein the EGF-like domain consists of an amino acid sequence having at least 75% amino acid sequence identity to SEQ ID NO:4, and wherein the EGF-like domain has the binding characteristics of NRG3 comprising:

- (a) binding to ErbB4 receptor but not to ErbB2 receptor or ErbB3 receptor under experimentally comparable conditions; and
- (b) activation of ErbB4 receptor tyrosine phosphorylation.

40. A host cell expressing the polypeptide of claim 1.

41. The host cell of claim 40, wherein the host cell is selected from the group consisting of a mammalian cell, a yeast cell, an insect cell, a plant cell, a lower eukaryote, and a prokaryote.

42. A host cell expressing the polypeptide of claim 4.

43. The host cell of claim 42, wherein the host cell is selected from the group consisting of a mammalian cell, a yeast cell, an insect cell, a plant cell, a lower eukaryote, and a prokaryote.

44. A host cell expressing the polypeptide of claim 39.

45. The host cell of claim 44, wherein the host cell is selected from the group consisting of a mammalian cell, a yeast cell, an insect cell, a plant cell, a lower eukaryote, and a prokaryote.